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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/199,127    11/24/98    ADDIS    M    1633-012B

PM82/0606  
HOPGOOD CALIMAFDE KALIL AND JUDLOWE  
60 EAST 42ND STREET SUITE 4000  
NEW YORK NY 10165

EXAMINER
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VATERLAUS, C

ART UNIT	PAPER NUMBER
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3627

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DATE MAILED: 06/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/199,127

Applicant(s)

Addis et al.

Examiner  
Clifford B. Vaterlaus

Group Art Unit  
3627



☒ Responsive to communication(s) filed on May 23, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-37 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-37 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the flat spring interposed between the casing shoulders and an inner surface of the outer ring portion of the ring segment, as recited in claims 6 and 20, must be shown or the feature(s) cancelled from the claim(s). No new matter should be entered.

Similarly, the plates having an incised channel to receive the base end portion of the bristles as recited in claims 2, 11, 16, and 25 must be shown or the feature(s) cancelled from the claim(s).

### ***Specification***

2. The disclosure is objected to because of the following informalities: the first sentence of the specification should state "this is a division of Application No. 08/891,526 filed 7/11/1997, now abandoned" in accordance with 37 CFR 1.78.

Appropriate correction is required.

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***Claim Objections***

3. Claims 5, 8, 10 and 22 are objected to because of the following informalities:

Claim 5, page 39, line 7, replace "wilt" with --will--;

Claim 8, line 2, replace "form" with --from--;

Claim 10, line 4, replace "casting" with --casing--;

Claim 22, line 2, replace "form" with --from--;

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-14, and 35-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is an inconsistency between the language in the preamble and certain portions in the body of the claim, thereby making the scope of the claim unclear. The preamble in claim 10 clearly indicates that a subcombination is being claimed, e.g., "a packing ring for use in forming a seal with a turbine shaft...." This language would lead the examiner to believe that the applicant intends to claim only the subcombination of "a packing ring," the turbine being only functionally

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recited. This presents no problem as long as the body of the claim also refers to the turbine functionally, such as, "for attachment to said turbine."

The problem arises when the turbine is positively recited within the body of the claim, such as, "said packing ring segment being mounted in a groove circumferentially in said diaphragm"; "an outer ring portion disposed within said groove"; "a neck portion . . . extending between said casing shoulders"; and "said neck portion having an axial thickness which is less than the distance between said opposing casing shoulders." There is an inconsistency within the claim; the preamble indicates subcombination, while in at least one instance in the body of the claim there is a positive recital of structure indicating that the combination of a packing ring and a turbine is being claimed. The examiner cannot be sure if applicant's intent is to claim merely the packing ring or the packing ring in combination with the turbine.

Applicant is required to clarify what the claims are intended to be drawn to, i.e., either the packing ring alone or the combination of the packing ring and the turbine. Applicant should make the language of the claim consistent with applicant's intent. In formulating a rejection on the merits, the examiner is considering that the claims are drawn to the subcombination and the claims will be rejected accordingly. If applicant indicates by amendment that the combination claim is the intention, the language in the preamble should be made consistent with the language in the body of the claims. If the intent is to claim the subcombination, then the body of the claims must be amended to remove positive recitation of the combination.

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A similar inconsistency exists in claim 35. Positive recitation of the turbine include for example: "a segmented seal ring supported by and at least partially contained in an annular seal ring groove"; "an outer ring portion disposed within said seal ring groove"; "an inner ring portion disposed in said clearance area"; "a neck portion . . . extending between said opposing, spaced apart shoulders"; and "an axial thickness which is less than the distance between said opposing, spaced apart shoulders."

Claim 14 recites the limitation "said channel" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 10, 24, 29-32, and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al.

Brandon discloses a packing ring comprising a body portion having a bore (22) in an edge surface for accepting a spring (16). Brandon does not disclose a plurality of brush segments having a packet of bristles having tip portions trimmed to terminate along a radius of curvature

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continuously extending along the longitudinal extent of the body portion so as to form a labyrinth seal. Hemsley discloses a packing ring comprising a plurality of brush segments having a packet of bristles (34) having tip portions trimmed to terminate along a radius of curvature continuously extending along the longitudinal extent of the body portion so as to form a labyrinth seal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the brushes as taught by Hemsley with the invention of Brandon so that bending of the bristles absorb transient deviation of the shaft from its normal running position to nullify any effects of wear on the shaft and prevent local heating leading to axial stresses which could bend the shaft (Hemsley, page 5, lines 1-5). Hemsley discloses the bristles are mounted in a groove (33).

Brandon discloses apertures (23a) in at least one of the segments to permit the free flow of working fluid into the seal ring groove, and teeth (14) attached to an inner arcuate surface. The shaft has raised areas cooperating with the teeth.

8. Claims 2, 3, 11, 12, 14, 25, 26, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. as applied to claims 1, 10, 24, and 32 above and further in view of U.S. Pat. No. 5,316,318 to Veau.

Brandon as modified by Hemsley discloses the invention discussed above but does not disclose the bristles are bound between a pair of plates having an incised channel to receive the base end portion of the bristles. Veau discloses bristles (10) bound between a pair of plates

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(12, 13) having an incised channel (at 10) to receive the base end portion of the bristles. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the bristles to the seal disclosed by Brandon and Hemsley with the plates disclosed by Veau. Hemsley discloses the bristles are held by "appropriate fastening means" such as "spring clips, a clamp arrangement or an adhesive appropriate to the particular environment" (page 4, lines 15-20). The plates disclosed by Veau are an obvious clamp arrangement for fastening the bristles.

The plates of each brush segment have a bottom edge surface with a radius of curvature adapted to conform to a radius of curvature of a groove formed in the vertical portion. The back plate (12) has an extent towards the shaft beyond the front plate to provide support for the bristles (see figs. 2A, 2B).

9. Claims 4, 13, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. as applied to claims 1, 10, and 24 above and further in view of U.S. Pat. No. 6,010,132 to Bagepalli et al.

Brandon as modified by Hemsley discloses the invention discussed above but does not disclose the bristles within each brush segment are bound within a channel by a core strip securing the bristles within the channel. Bagepalli discloses bristles bound within a channel by a core strip (60, fig. 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to secure the bristles to the seal disclosed by Brandon and Hemsley with the core strip disclosed by Bagepalli. Again, Hemsley discloses the bristles are held by "appropriate fastening



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means” such as “spring clips, a clamp arrangement or an adhesive appropriate to the particular environment” (page 4, lines 15-20). The core strip disclosed by Bagepalli is an obvious clamp arrangement for fastening the bristles.

10. Claims 5, 7, 8, 9, 15, 21-23, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. and U.S. Pat. No. 5,547,340 to Dalton et al.

Brandon as modified by Hemsley discussed above discloses the claimed seal ring but does not disclose the structure of the turbine in combination with the seal. However, Dalton discloses a turbine having the claimed structural features in combination with a seal (20A). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute one well known turbine for another known turbine.

11. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. and U.S. Pat. No. 5,547,340 to Dalton et al. as applied to claims 5 and 15, above and further in view of U.S. Pat. No. 5,603,510 to Sanders.

Brandon as modified by Hemsley and Dalton discloses the invention discussed above but does not disclose a flat spring interposed between the casing shoulders and an inner surface of the outer ring portion of the ring segment. Sanders discloses a flat spring (203b) interposed between the casing shoulders and an inner surface of the outer ring portion of the ring segment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace

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the coil springs (16) of Brandon with the flat springs taught by Sanders, as a substitution of one well known spring for another.

12. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. and U.S. Pat. No. 5,547,340 to Dalton et al. as applied to claim 15, above and further in view of U.S. Pat. No. 5,316,318 to Veau.

Brandon as modified by Hemsley and Dalton discloses the invention discussed above but does not disclose the bristles are bound between a pair of plates having an incised channel to receive the base end portion of the bristles. Veau discloses bristles (10) bound between a pair of plates (12, 13) having an incised channel (at 10) to receive the base end portion of the bristles. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the bristles to the seal disclosed by Brandon and Hemsley with the plates disclosed by Veau. Hemsley discloses the bristles are held by "appropriate fastening means" such as "spring clips, a clamp arrangement or an adhesive appropriate to the particular environment" (page 4, lines 15-20). The plates disclosed by Veau are an obvious clamp arrangement for fastening the bristles.

13. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,810,365 to Brandon et al. in view of UK Pat. GB 2,301,635 to Hemsley et al. and U.S. Pat. No. 5,547,340 to Dalton et al. as applied to claim 15, above and further in view of U.S. Pat. No. 6,010,132 to Bagepalli et al.

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Brandon as modified by Hemsley and Dalton discloses the invention discussed above but does not disclose the bristles within each brush segment are bound within a channel by a core strip securing the bristles within the channel. Bagepalli discloses bristles bound within a channel by a core strip (60, fig. 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to secure the bristles to the seal disclosed by Brandon and Hemsley with the core strip disclosed by Bagepalli. Again, Hemsley discloses the bristles are held by "appropriate fastening means" such as "spring clips, a clamp arrangement or an adhesive appropriate to the particular environment" (page 4, lines 15-20). The core strip disclosed by Bagepalli is an obvious clamp arrangement for fastening the bristles.

### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cliff Vaterlaus whose telephone number is (703)306-9177. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BethAnne Dayoan, can be reached at (703) 308-3865.

Submission of your response by facsimile transmission is encouraged. Group 3620's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee

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but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitted by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 305-3597) on \_\_\_\_ (Date) \_\_\_\_

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\_\_\_\_\_  
(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be directed to bethanne.dayoan@uspto.gov.

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist at (703) 308-2168.



Cliff Vaterlaus  
June 5, 2000

B. DAYOAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600